



**(43) International Publication Date
29 July 2004 (29.07.2004)**

PCT

(10) International Publication Number
WO 2004/062764 A3

(51) International Patent Classification⁷: C10K 3/04

[US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US). **STROHLER, Keith** [US/US]; Fluor Corporation, One Enterprise Drive, Aliso Viejo, CA 92656 (US).

(22) International Filing Date: 13 January 2004 (13.01.2004)

(74) **Agent: FESSENMAIER, Martin**; 611 Anton Boulevard, Suite 1400, Costa Mesa, CA 92626 (US).

(25) Filing Language: English

(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English
(30) Priority Data:
60/439,912 13 January 2003 (13.01.2003) US

kind of national protection available): AL, AG, AE, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

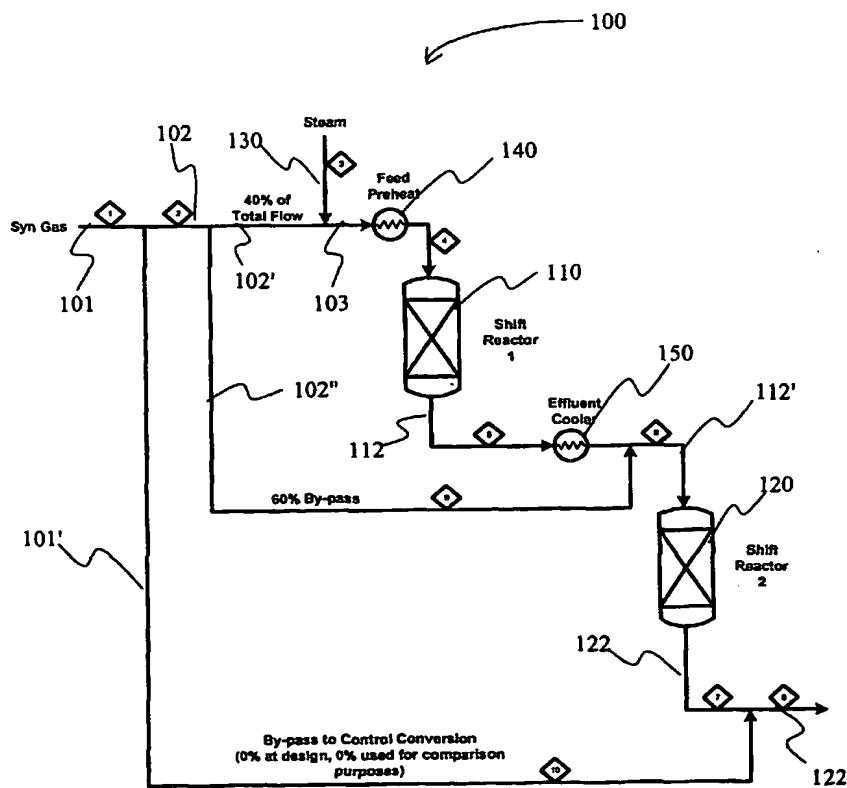
(71) **Applicant (for all designated States except US): FLUOR CORPORATION [US/US]; One Enterprise Drive, Aliso Viejo, CA 92656 (US).**

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: IMPROVED CONFIGURATION AND PROCESS FOR SHIFT CONVERSION

(57) Abstract: Overall steam demand for hydrogen production in shift reactor is lowered by splitting the syngas feed stream (101) into first portion (102') and second portion (102''). The first portion (102') is fed to a first shift reactor (110) to form a first product (112). The first product (112) is combined with the second portion (102'') of the syngas feed prior to entering a second shift reactor (120).





GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
2 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— with international search report

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/00926

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C10K 3/04
US CL : 48/128, 198.3; 422/188-191, 193, 211; 423/246-247, 655

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 48/128, 198.3; 422/188-191, 193, 211; 423/246-247, 655

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3,904,389 A (BANQUY) 9 September 1975 (09.09.1975)	1-15
A	US 4,476,683 A (SHAH et al.) 16 October 1984 (16.10.1984)	1-15
A	US 4,863,707 A (McSHEA, III et al.) 5 September 1989 (05.09.1989)	1-15

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

06 August 2004 (06.08.2004)

Date of mailing of the international search report

01 SEP 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Basia Ridley

Telephone No. (571) 272-1700

